

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the following remarks.

Claims 11-14 and 16-20 have been amended for clarity. Support for the amendments is provided, for example, in the previous version of these claims, Applicants' Figs. 7 and 8, and paragraphs [0062], [0063], and [0065]-[0068] of Applicants' published specification. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

Claims 11-14 and 16-20 were rejected, under 35 USC §102(e), as being anticipated by MacNally (US 6,516,185). Claim 15 was rejected, under 35 USC §103(a), as being unpatentable over MacNally in view of Shi et al. (US 2004/0081256). To the extent the rejections may be deemed applicable to the amended claims, Applicants respectfully traverse.

Claim 17 now defines a direct conversion reception method that: (1) estimates, before receiving a signal, amplifying gains to be applied to the signal during each time slot within a frame of the signal; (2) selects a maximum gain from those estimated for the time slots of the frame; and (3) calibrates, before the reception period of the signal frame, an offset voltage of the signal using a calibration value matching the selected maximum gain. In at least some embodiments, the claimed subject matter provides advantages of: (a) reducing the influence of a remaining offset voltage in gain control during a reception operation, thus making it possible to prevent saturation and sensitivity degradation even when power control is performed in multi-slot transmission, and (b) calibrating an offset voltage without increasing current consumption (see paragraph [0081] of Applicants' published specification).

With regard to the above-mentioned feature (1) of claim 17, the Office Action proposes that MacNally discloses increasing or decreasing a gain until a signal level is within a particular range (see Office Action page 3, lines 1-3). However, as illustrated in MacNally's Fig. 4, MacNally discloses adjusting a gain value during a preamble period of an incoming signal and, once the gain is so adjusted, holding this adjusted gain value constant during the data reception period of the incoming signal (see MacNally col. 7, lines 53-58). Thus, MacNally does not disclose the Applicants' claimed subject matter of estimating gains for a plurality of time slots within a frame of a received signal. Instead, MacNally discloses determining a single gain to be applied to a received data signal.

Moreover, MacNally discloses that the preamble period and data period are integral parts of a single signal (see MacNally col. 7, lines 54-55). As mentioned in the preceding paragraph, MacNally discloses adjusting a gain value during a preamble period of an incoming signal (see MacNally col. 7, lines 54-56). Thus, MacNally does not disclose the Applicants' claimed subject matter of estimating, before receiving a signal, a gain to be applied to the signal.

Furthermore, MacNally does not disclose that the data portion of the signal illustrated in Fig. 4 contains time slots. Thus, MacNally does not disclose the Applicants' claimed subject matter of estimating a gain for each time slot of a signal frame.

With regard to the above-mentioned feature (2) of claim 17, the Office Action proposes that MacNally discloses that an incoming signal is peak detected over a period of time to determine the envelope of the signal (see Office Action page 3, line 7). Although MacNally may disclose peak-detecting an incoming signal, as proposed in the Office Action, such disclosure is not the same as the Applicants' claimed subject matter of selecting a maximum gain from a

plurality of estimated gains and applying the selected gain to a calibration operation, as recited in the above-mentioned features (2 and 3) of claim 17.

With regard to the above-mentioned feature (3) of claim 17, the Office Action proposes that MacNally discloses controlling an offset value during a preamble period of an incoming signal (see Office Action page 3, lines 13-14). Because MacNally's preamble period constitutes part of the incoming signal, as proposed in the Office Action, it follows that MacNally does not disclose the Applicants' claimed subject matter of calibrating an offset voltage, to be applied to a signal, before receiving the signal.

Accordingly, the Applicants submit that MacNally does not disclose all of the subject matter defined by claim 17 and, thus, does not anticipate claim 17. Independent claims 11 and 19 similarly recite the above-mentioned subject matter distinguishing method claim 17 from MacNally's disclosure, but do so with respect to apparatuses. Therefore, allowance of claims 11, 17, and 19 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

Respectfully submitted,

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